

1/19

FIG 1a

1 ATGTGGGTGACCAAACCTCCTGCCAGCCCTGCTGCAGCATGTCCTCCTGCATCTCCTC
 1 TACACCCACTGGTTGAGGACGGTCGGGACGACGACGTACAGGAGGACGTAGAGGAG 60
 1 M W V T K L L P A L L L Q H V L L H L L 20
 61 CTGCTCCCCATGCCATCCCCTATGCAGAGGGACAAAGGAAAAGAAGAAAATACAATT
 61 C GACGAGGGTAGCGGTAGGGATACGTCTCCCTGTTCTTCTTCATTATGTTAAGTA 120
 21 L L P I A I P Y A E G Q R K R R N T I H 40
 121 GAATTCAAAAAATCAGCAAAGACTACCCATAATCAAATAGATCCAGCACTGAAGATAAAA
 121 CTTAAGTTTTAGTCGTTCTGATGGGATTAGTTTATCTAGGTCTGACTTCTATT 180
 41 E F K K S A K T T L I K I D P A L K I K 60
 181 ACCAAAAAAAGTGAATACTGCAGCCAATGTGCTAATAGATGTACTAGGAATAAAGGACTT
 181 TGGTTTTTCACTTATGACGTCTGGTACACGATTATCTACATGATCCTTATTCCTGAA 240
 61 T K K V N T A D Q C A N R C T R N K G L 80
 241 CCATTCACTTGCAAGGCTTTGTTTGATAAAAGCAAGAAAACAATGCCTCTGGTCCCC
 241 GGTAAGTGAACGTTCCGAAAACAAAAACTATTCGTTCTTGTACGGAGACCAAGGGG 300
 81 P F T C K A F V F D K A R K Q C L W F P 100
 301 TTCAATAGCATGTCAAGTGGAGTGA AAAAGAATTGGCCATGAATTGACCTCTATGAA
 301 AAGTTATCGTACAGTTCACCTCACTTTCTAAACCGGTACTTAAACTGGAGATACTT 360
 101 F N S M S S G V K K E F G H E F D L Y E 120
 361 AACAAAGACTACATTAGAAACTGCATCATTGGTAAAGGACGGCAGCTACAAGGGAACAGTA
 361 TTGTTCTGATGTAATCTTGACGTAGTAACCATTCCCTGCGTCAAGGTACTATGGTGTGCT 420
 121 N K D Y I R N C I I G K G R S Y K G T V 140
 421 TCTATCACTAAGAGTGGCATCAATGTCAGCCCTGGAGTTCCATGATACACACAGAACAC
 421 AGATAGTGAATTCTCACCGTAGTTACAGTCGGGACCTCAAGGTACTATGGTGTGCT 480
 141 S I T K S G I K C Q P W S S M I P H E H 160

(continued)

(continued)

2/19

481	AGCTATCGGGTAAAGACCTACAGGAAA	ACTACTGTCGAATCCTCGAGGGGAAGAAGGG		
	-----+-----+-----+-----+-----+	-----+-----+-----+-----+-----+		
	TCGATAGCCCATTCTGGATGTCCTTTGATGACAGCTTAGGAGCTCCCTCTTCCC			540
161	S Y R G K D L Q E N Y C R N P R G E E G			180
541	GGACCTGGTHTTCACAAGCAATCCAGAGGTACGCTACGAAGTCTGTGACATTCTCAG			
	-----+-----+-----+-----+-----+-----+-----+-----+-----+	-----+-----+-----+-----+-----+-----+-----+-----+		
	CCTGGGACCACAAAGTGTCTAGGTCTCATGCGATGCTTCAGACACTGTAAGGAGTC			600
181	G P W C F T S N P E V R Y E V C D I P Q			200
601	TGTTCAGAAGTTGAATGCATGACCTGCAATGGGAGAGTTATCGAGGTCTCATGGATCAT			
	-----+-----+-----+-----+-----+-----+-----+-----+-----+	-----+-----+-----+-----+-----+-----+-----+-----+		
	ACAAGTCTTCAACTTACGTACTGGACGTTACCCCTCTCAATAGCTCCAGAGTACCTAGTA			660
201	C S E V E C M T C N G E S Y R G L M D H			220
661	ACAGAACATCAGGCCAAGATTGTCAGCGCTGGGATCATCAGACACCAACACCGGCACAAATTG			
	-----+-----+-----+-----+-----+-----+-----+-----+-----+	-----+-----+-----+-----+-----+-----+-----+-----+		
	TGTCTTAGTCCGTTCTAACAGTCGCGACCCCTAGTAGTACTGTGGTGTGCCGTGTTAAG			720
221	T E S G K I C Q R W D H Q T P H R H K F			240
721	TTGCCTGAAAGATATCCCGACAAGGGTTGATGATAATTATTGCCGCAATCCCGATGGC			
	-----+-----+-----+-----+-----+-----+-----+-----+-----+	-----+-----+-----+-----+-----+-----+-----+-----+		
	AACGGACTTCTATAGGGCTGTTCCCGAAACTACTATTAAACGGCGTTAGGGCTACCG			780
241	L P E R Y P D K G F D D N Y C R N P D G			260
781	CAGCCGAGGCCATGGTGCCTACTCTTGACCCCTCACACCCGCTGGGAGTACTGTGCAATT			
	-----+-----+-----+-----+-----+-----+-----+-----+-----+	-----+-----+-----+-----+-----+-----+-----+-----+		
	GTCGGCTCCGGTACCAACGATATGAGAACTGGGAGTGTGGCGACCCCTCATGACACGTTAA			840
261	Q P R P W C Y T L D P H T R W E Y C A I			280
841	AAAACATGCGCTGACAATACTATGAATGACACTGATGTTCTTGGAAACAACACTGAATGC			
	-----+-----+-----+-----+-----+-----+-----+-----+-----+	-----+-----+-----+-----+-----+-----+-----+-----+		
	TTTTGTACGCGACTGTTATGATACTTACTGTGACTACAAGGAAACCTTGTGACTTACG			900
281	K T C A D N T M N D T D V P L E T T E C			300
901	ATCCAAGGTCAAGGAGAAGGCTACAGGGCACTGTCAATACCATTTGGAATGGAATTCCA			
	-----+-----+-----+-----+-----+-----+-----+-----+-----+	-----+-----+-----+-----+-----+-----+-----+-----+		
	TAGGTTCCAGTCCCTCTCCGATGTCCTGGTACAGTTATGGTAAACCTTACCTTACGGT			960
301	I Q G Q G E G Y R G T V N T I W N G I P			320
961	TGTCAGCGTTGGGATTCTCAGTATCCTCACGACATGACATGACTCCTGAAAATTCAAG			
	-----+-----+-----+-----+-----+-----+-----+-----+-----+	-----+-----+-----+-----+-----+-----+-----+-----+		
	ACAGTCGCAACCTAACAGAGTCATAGGAGTGCTCGTACTGTACTGAGGACTTTAACGTT			1020
321	C Q R W D S Q Y P H E H D M T P E N F K			340
1021	TGCAAGGACCTACGAGAAAATTACTGCCGAAATCCAGATGGGTCTGAATCACCCCTGGTGT			
	-----+-----+-----+-----+-----+-----+-----+-----+-----+	-----+-----+-----+-----+-----+-----+-----+-----+		
	ACGTTCTGGATGCTCTTTAATGACGGCTTAGGTCTACCCAGACTTAGTGGGACCACA			1080
341	C K D L R E N Y C R N P D G S E S P W C			360
1081	TTTACCACTGATCCAAACATCCGAGTTGGCTACTGCTCCAAATTCCAAACTGTGATATG			
	-----+-----+-----+-----+-----+-----+-----+-----+-----+	-----+-----+-----+-----+-----+-----+-----+-----+		
	AAATGGTGAATGAGTTGTAGGCTCAACCGATGACGGAGGGTTAAGGTTGACACTATAC			1140
361	F T T D P N I R V G Y C S Q I P N C D M			380

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WO 99/38967

PCT/EP99/00478

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13/19

1141	TCACATGGACAAGATTGTTATCGTGGGAATGGCAAAATTATGGGCAACTTATCCCAA -----+-----+-----+-----+-----+-----+-----+-----+-----+ AGTGTACCTGTTCTAACAAATAGCACCCTTACCGTTTTAATATACCCGTTGAATAGGGTT	1200
381	S H G Q D C Y R G N G K N Y M G N L S Q	400
1201	ACAAGATCTGGACTAACATGTTCAATGTGGGACAAGAACATGGAAGACTTACATCGTCAT -----+-----+-----+-----+-----+-----+-----+-----+-----+ TGTTCTAGACCTGATTGTACAAGTTACACCCTGTTCTGTACCTTCTGAATGTAGCAGTA	1260
401	T R S G L T C S M W D K N M E D L H R H	420
1261	ATCTTCTGGGAACCAGATGCAAGTAAGCTGAATGAGAATTACTGCCGAAATCCAGATGAT -----+-----+-----+-----+-----+-----+-----+-----+-----+ TAGAAGACCCCTGGTCTACGTTCATCGACTTACTCTTAATGACGGCTTAGGTCTACTA	1320
421	I F W E P D A S K L N E N Y C R N P D D	440
1321	GACGCTCATGGACCCTGGTGTACACGGAAATCCACTCATCCTTGGATTATTGCCCT -----+-----+-----+-----+-----+-----+-----+-----+-----+ CTCGAGTACCTGGGACCACGATGTGCCCTTAGGTGAGTAAGGAACCCCTAACGGGA	1380
441	D A H G P W C Y T G N P L I P W D Y C P	460
1381	ATTCTCGTTGTGAAGGTGATACCACACCTACAATAGTCATAATTAGACCATCCCGTAATA -----+-----+-----+-----+-----+-----+-----+-----+-----+ TAAAGAGCAACACTCCACTATGGTGTGGATGTTATCAGTTAAATCTGGTAGGGCATTAT	1440
461	I S R C E G D T T P T I V N L D H P V I	480
1441	TCTTGTGCCAAAACGAAACAATTGCGAGTTGTAAATGGGATTCCAACACGAACAAACATA -----+-----+-----+-----+-----+-----+-----+-----+-----+ AGAACACGGTTTGCTTGTAAACGCTCACATTACCTAACGGTTGTGCTTGTAT	1500
481	S C A K T K Q L R V V N G I P T R T N I	500
1501	GGATGGATGGTTAGTTGAGATAACAGAAATAAACATATCTCGGAGGATCATTGATAAAG -----+-----+-----+-----+-----+-----+-----+-----+-----+ CCTACCTACCAATCAAACCTATGTCTTATTGTATAGACGCCTCTAGTAACATTTC	1560
501	G W M V S L R Y R N K H I C G G S L I K	520
1561	GAGAGTTGGTTCTTACTGCACGACAGTGTTCCTCTCGAGACTTGAAAGATTATGAA -----+-----+-----+-----+-----+-----+-----+-----+-----+ CTCTCAACCCAAGAACATGACGTGCTGTACAAAGGGAAAGAGCTCTGAACCTTCTAACACTT	1620
521	E S W V L T A R Q C F P S R D L K D Y E	540
1621	GCTTGGCTTGGAAATTCATGATGTCCACGGAAGAGGAGATGAGAAATGCAAACAGGTTCTC -----+-----+-----+-----+-----+-----+-----+-----+-----+ CGAACCGAACCTTAAGTACTACAGGTGCCTCTCCTCTACTCTTACGTTGTCCAAGAG	1680
541	A W L G I H D V H G R G D E K C K Q V L	560
1681	AATGTTCCCAGCTGGTATATGCCCTGAAGGGATCAGATCTGGTTAAATGAAGCTTGCC -----+-----+-----+-----+-----+-----+-----+-----+-----+ TTACAAAGGGTCGACCATATACCGGGACTTCCTAGTCTAGACCAAAATTACTTCGAACGG	1740
561	N V S Q L V Y G P E G S D L V L M K L A	580
1741	AGGCCTGCTGTCCTGGATGATTTGTTAGTACGATTGATTACCTAACATTATGGATGCACA -----+-----+-----+-----+-----+-----+-----+-----+-----+ TCCGGACGACAGGACCTACTAAACAAATCATGCTAACTAACATTGGATTAATACCTACGTGT	1800
581	R P A V L D D F V S T I D L P N Y G C T	600

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09/600991

JUL 18 1999

WO 99/38967

PCT/EP99/00478

4/19

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1801	ATTCCTGAAAAGACCAGTTGCAGTGTTATGGCTGGGCTACACTGGATTGATCAACTAT	1860
	TAAGGACTTTCTGGTCAACGTACAAATACCGACCCGATGTGACCTAAGTTGATA	
601	I P E K T S C S V Y G W G Y T G L I N Y	620
1861	GATGGCCTATTACGAGTGGCACATCTCTATATAATGGAAATGAGAAATGCAGCCAGCAT	1920
	CTACCGATAATGCTCACCGTAGAGATATATTACCTTACTCTTACGTCGGTCGTA	
621	D G L L R V A H L Y I M G N E K C S Q H	640
1921	CATCGAGGGAAAGGTGACTCTGAATGAGTCTGAAAATATGTGCTGGGCTGAAAAGATTGGA	1980
	GTAGCTCCCTTCACTGAGACTTACTCAGACTTATACACGACCCGACTTTCTAACCT	
641	H R G K V T L N E S E I C A G A E K I G	660
1981	TCAGGACCATGTGAGGGGATTATGGTGGCCCAC TTGTTGTGAGCAACATAAAATGAGA	2040
	AGTCCTGGTACACTCCCCCTAATACCACCGGGTGAACAAACACTCGTTGATTACTCT	
661	S G P C E G D Y G G P L V C E Q H K M R	680
2041	ATGGTTCTTGGTGTCAATTGTTCTGGTCGTGGATGTGCCATTCAAATCGTCCTGGTATT	2100
	TACCAAGAACACAGTAACAAGGACCAGCACCTACACGGTAAGGTTAGCAGGACCATAA	
681	M V L G V I V P G R G C A I P N R P G I	700
2101	TTTGTCCGAGTAGCATATTATGCAAAATGGATAACACAAAATTATTTAACATATAAGGTA	2160
	AAACAGGCTACGTATAATACGTTTACCTATGTGTTAATAAAATTGTATATTCCAT	
701	F V R V A Y Y A K W I H K I I L T Y K V	720
2161	CCACAGTCATAG GGTGTCAAGTATC	2172
721	P Q S *	723

5/19

FIG 1b

1	ATGGGGTGGCTCCACTCCTGCTGCTTCTGACTCAATGCTTAGGGTCCCTGGCAGCGC	60
1	TACCCCACCGAGGGTGAGGACGACGAAGACTGAGTTACGAATCCCCAGGGACCCGTGCG	
1	M G W L P L L L L T Q C L G V P G Q R	20
61	TCGCCATTGAATGACTTCCAAGTGCTCCGGGGCACAGAGCTACAGCACCTGCTACATGCG	120
61	AGCGGTAACCTACTGAAGGTTACCGAGGCCCGTGTCTCGATGTCGTGGACGATGTACGC	
21	S P L N D F Q V L R G T E L Q H L L H A	40
121	GTGGTCCCCGGGCCTTGGCAGGAGGATGTGGCAGATGCTGAAGAGTGTGCTGGTCGCTGT	180
121	CACCAACGGGCCCGAACCGTCCTACACCGTCTACGACTTCTCACACGACCAGCGACA	
41	V V P G P W Q E D V A D A E E C A G R C	60
181	GGGCCCTTAATGGACTGCCGGCCTTCCACTACAACGTGAGCAGCCATGGTTGCCAACTG	240
181	CCCGGGAAATTACCTGACGGGCCGGAAAGGTGATGTTGCACTCGTGGTACCAACGGTTGAC	
61	G P L M D C R A F H Y N V S S H G C Q L	80
241	CTGCCATGGACTAACACTCGCCCCACACGAGGCTGCCGGCTTCTGGCGCTGTGACCTC	300
241	GACGGTACCTGAGTTGTGAGCGGGGTGTGCTCCGACGCCGCAAGACCCGCGACACTGGAG	
81	L P W T Q H S P H T R L R R S G R C D L	100
301	TTCCAGAAGAAAGACTACGTACGGACCTGCATCATGAACAAATGGGTTGGGTACCGGGC	360
301	AAGGTCTTCTTCTGATGCATGCCGGACGTAGTTGTTACCCCAACCCATGGCCCCG	
101	F Q K K D Y V R T C I M N N G V G Y R G	120
361	ACCATGGCCACGACCGTGGGTGGCCTGCCCTGCCAGGCTGGAGCCACAAGTCCCGAAT	420
361	TGGTACCGGTGCTGGCACCCACCGGACGGTCCGAACCTCGGTGTTCAAGGGCTTA	
121	T M A T T V G G L P C Q A W S H K F P N	140
421	GATCACAAAGTACACGCCACTCTCCGGAATGGCTGGAAGAGAACTTCTGCCGTAACCC	480
421	CTAGTGTTCATGTGCGGGTGAGAGGCCCTTACCGGACCTTCTCTGAAGACGGCATTGGGA	
141	D H K Y T P T L R N G L E E N F C R N P	160

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WO 99/38967

PCT/EP99/00478

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6/19

481	GATGGCGACCCCGGAGGTCTTGGTGCTACACAACAGACCCCTGCTGTGCCTTCAGAGC -----+-----+-----+-----+-----+-----+-----+-----+-----+ CTACCGCTGGGCCTCCAGGAACCACGATGTGTTGCTGGGACGACACCGCAAGGTCTCG	540
161	D G D P G G P W C Y T T D P A V R F Q S	180
531	TGCGGCATCAAATCCTGCCGGAGGCCGCGTGTGCTGGTGCAATGGCGAGGAATACCGC -----+-----+-----+-----+-----+-----+-----+-----+-----+ ACGCCGTAGTTAGGACGGCCCTCCGGCGCACACAGACCACGTTACCGCTCCTATGGCG	600
181	C G I K S C R E A A C V W C N G E E Y R	200
601	GGCGCGGTAGACCGCACGGAGTCAGGGCGCGAGTGCCAGCGCTGGGATCTTCAGCACCCG -----+-----+-----+-----+-----+-----+-----+-----+-----+ CCGCGCCATCTGGCGTGCCTCAGTCCCACGCTCACGGTCGCGACCCCTAGAAGTCGTGGCG	660
201	G A V D R T E S G R E C Q R W D L Q H P	220
661	CACCAGCACCCCTTCGAGCCGGCAAGTTCTCGACCAAGGTCTGGACGACAACATTGC -----+-----+-----+-----+-----+-----+-----+-----+-----+ GTGGTCGTGGGAAGCTCGGCCGTTCAAGGAGCTGGTCCAGACCTGCTGTTGATAACG	720
221	H Q H P F E P G K F L D Q G L D D N Y C	240
721	CGGAATCTGACGGCTCCGAGCGGCCATGGTGCTACACTACGGATCCGAGATCGAGCGA -----+-----+-----+-----+-----+-----+-----+-----+-----+ GCCTTAGGACTGCGAGGGCTCGCCGGTACACGATGTGATGCCTAGGCGTCTAGCTCGCT	780
241	R N P D G S E R P W C Y T T D P Q I E R	260
781	GAGTTCTGTGACCTCCCCGCTGCGGGTCCGAGGCACAGCCCCGCCAAGAGGCCACAAC -----+-----+-----+-----+-----+-----+-----+-----+-----+ CTCAAGACACTGGAGGGGGCGACGCCCAGGCTCCGTGTCGGGCGGTTCTCCGGTGTGA	840
261	E F C D L P R C G S E A Q P R Q E A T T	280
841	GTCAGCTGCTTCCGGGAAGGGTGAGGGCTACCGGGCACAGCCAATACCAACACTGCG -----+-----+-----+-----+-----+-----+-----+-----+-----+ CAGTCGACGAAGCGCCCTCCACTCCCCATGGCCGTGTCGGTTATGGTGGTGACGC	900
281	V S C F R G K G E G Y R G T A N T T T A	300
901	GGCGTACCTTGCCAGCGTTGGGACCGCAAATCCCGCATCAGCACCGATTACGCCAGAA -----+-----+-----+-----+-----+-----+-----+-----+-----+ CCGCATGGAACGGTCGCAACCCCTCGCGTTAGGGCGTAGTCGTGGCTAAATGCGGTCTT	960
301	G V P C Q R W D A Q I P H Q H R F T P E	320
961	AAATACCGGTGCAAAGACCTTCGGGAGAACCTCTGCCGAACCCGACGGCTCAGAGGCG -----+-----+-----+-----+-----+-----+-----+-----+-----+ TTTATGCGCACGTTCTGGAAAGCCCTCTGAAGACGGCTTGGGCTGCCGAGTCGCC	1020
321	K Y A C K D L R E N F C R N P D G S E A	340
1021	CCCTGGTCTTACACTCGGGCCGGCATCGCGCGGCCCTTGCTACCAAGATCCGGCGT -----+-----+-----+-----+-----+-----+-----+-----+-----+ GGGACCAACGAAGTGTGACGCCGGCGTACCGCGCCGGAAACGATGGTCTAGGCCGCA	1080
341	P W C F T L R P G M R A A F C Y Q I R R	360
1081	TGTACAGACGTGCGGCCAGGACTGCTACCAACGGCGCAGGGAGCAGTACCGCGC -----+-----+-----+-----+-----+-----+-----+-----+-----+ ACATGTCTGCTGACGCCGGGTCTGACGATGGTGCCTCGTCCCTCGTATGCCGCCG	1140
361	C T D D V R P Q D C Y H G A G E Q Y R G	380

(continued)

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-7/19

1141	ACGGTCAGCAAGACCCGCAAGGGTGTCCAGTGCCAGCGCTGGTCCGCTGAGACGCCGCAC TGCCAGTCGTTCTGGCGTCCACAGGTCACGGTCGCGACCAGGCGACTCTGCGGCGTG	1200
381	T V S K T R K G V Q C Q R W S A E T P H	400
1201	AAGCCGCAGTTCACGTTACCTCCGAACCGCATGCACAACGGAGAAGTCTGCCGG TTCGGCGTCAAGTGCAAATGGAGGCTTGGCGTACGTGTTGACCTCCTCTGAAGACGGCC	1260
401	K P Q F T F T S E P H A Q L E E N F C R	420
1261	AACCCAGATGGGGATAAGCCATGGGCCCTGGTGCTACACGATGGACCCAAGGACCCCATTG TTGGGTCTACCCCTATCGGTACCCGGGACACGATGTGCTACCTGGGTTCTGGGTAAAG	1320
421	N P D G D S H G P W C Y T M D P R T P F	440
1321	GACTACTGTGCCCTGCGACGCTGCGCTGATGACCAGGCCATCAATCCTGGACCCCCA CTGATGACACGGGACGCTGCGACGCGACTACTGGTCGGCGGTAGTTAGGACCTGGGGGT	1380
441	D Y C A L R R C A D D Q P P S I L D P P	460
1381	GACCAGGTGCAGTTGAGAAGTGTGGCAAGAGGGTGGATCGGCTGGATCAGCGCGTTCC CTGGTCCACGTCAAACTCTTCACACCGTTCTCCACCTAGCCGACCTAGTCGCCGCAAGG	1440
461	D Q V Q F E K C G K R V D R L D Q R R S	480
1441	AAGCTGCGCGTGGTTGGGGCCATCCGGCAACTCACCCCTGGACAGTCAGCTTGGGAAT TTCGACGCGCACCAACCCCCGGTAGGGCCGTTGAGTGGGACCTGTCAGTCGAACGCCCTTA	1500
481	K L R V V G G H P G N S P W T V S L R N	500
1501	CGGCAGGGCCAGCATTCTGCGGGGGCTCTAGTGAAGGAGCAGTGGATACTGACTGCC GCCGTCCCCTCGTAAAGACGCCCGAGAGATCACTCCCTCGTCACCTATGACTGACGG	1560
501	R Q G Q H F C G G S L V K E Q W I L T A	520
1561	CGGCAGTGCTTCTCCTGCCATATGCCCTCAGGGCTATGAGGTATGGTGGGCACC GCCGTACGAAAGAGGAGGACGGTATACGGAGAGTGGCCGATACTCCATACCAACCCGTGG	1620
521	R Q C F S S C H M P L T G Y E V W L G T	540
1621	CTGTTCCAGAACCCACAGCATGGAGAGCCAAGCCTACAGCGGGTCCCAGTAGCCAAGATG GACAAGGTCTGGGTGTCGTACCTCTCGGTTGGATGTCGCCAGGGTCATGGTTCTAC	1680
541	L F Q N P Q H G E P S L Q R V P V A K M	560
1681	GTGTGTGGCCCTGAGGCTCCAGCTTGTGCTCAAGCTGGAGAGATCTGTGACCCCTG CACACACCCGGAGTCCGAGGGTCGAACAGGACGAGTTGACCTCTAGACACTGGGAC	1740
561	V C G P S G S Q L V L L K L E R S V T L	580
1741	AACCAGCGTGTGGCCCTGATCTGCCTGCCCTGAAATGGTATGTGGTGCCTCCAGGGACC TTGGTCGCACACCGGGACTAGACGGACGGGGACTTACCATACACCACGGAGGTCCCTGG	1800
581	N Q R V A L I C L P P E W Y V V P P G T	600

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09/600991

WO 99/38967

PCT/EP99/00478

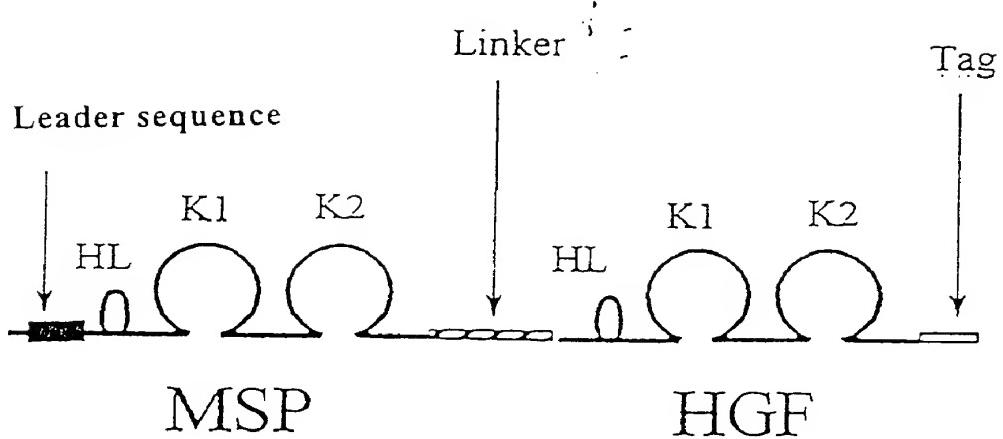
8/19

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1801	AAGTGTGAGATTGCAGGCTGGGTGAGACCAAAGGTACGGGTAATGACACAGTCCTAAAT TTCACACTCTAACGTCGACCCACTCTGGTTCCATGCCATTACTGTGTCAGGATT	1860
601	K C E I A G W G E T K G T G N D T V L N	620
1861	GTGGCCTTCTGAATGTTATCTCCAACCAGGAGTGTAAACATCAAGCACCGAGGACGTGTG CACCGGAAAGACTTACAATAGAGGTTGGTCCTCACATGTAGTCGTGGCTCCTGCACAC	1920
621	V A F L N V I S N Q E C N I K H R G R V	640
1921	CGGGAGAGTGAGATGTGCACTGAGGGACTGTGGCCCTGTGGGGGCTGTGAGGGTGAC GCCCTCTCACTCTACACGTGACTCCCTGACAACCGGGACACCCCCGGACACTCCACTG	1980
641	R E S E M C T E G L L A P V G A C E G D	660
1981	TACGGGGGCCACTTGCCTGCTTACCCACAACTGCTGGGTCTGGAAAGGAATTATAATC ATGCCCGGGTGAACGGACGAAATGGGTGTTGACGACCCAGGACCTTCCTTAATATTAG	2040
661	Y G G P L A C F T H N C W V L E G I I I	680
2041	CCCAACCGAGTATGCGCAAGGTCCCGCTGGCCAGCTGTCTTCACCGGTGTCCTGTGTTT GGGTTGGCTCATACCGCTTCCAGGGCGACCGGTCGACAGAAGTGCACAGAGACACAAA	2100
681	P N R V C A R S R W P A V F T R V S V F	700
2101	GTTGGACTGGATTACAAGGTATGAGACTGGGTTAG CACCTGACCTAACGTGTTCCAGTACTCTGACCCAATC	2136
701	V D W I H K V M R L G *	711

9/19

FIG 2a



10/19

FIG 2b

1 GAATTCCACCATGGGTGGCTCCCACTCCTGCTGCTTCTGACTCAATGCTTAGGGTCCC 60
 1 CTTAAGGTGGTACCCCACCGAGGGTGAGGACGACGAAGACTGAGTTACGAATCCCCAGGG
 1 M G W L P L L L L T Q C L G V P 17
 61 TGGGCAGCGCTCGCCATTGAATGACTTCCAAGTGCTCCGGGGCACAGAGCTACAGCACCT 120
 ACCCGTGCAGCGGTAACTTACTGAAGGTTACGAGGCCCGTGTCTCGATGTCGTGGA
 18 G Q R S P L N D F Q V L R G T E L Q H L 37
 121 GCTACATGCGGTGGTGCCTGGCAGGAGGATGTGGCAGATGCTGAAGAGGTGTC 180
 CGATGTACGCCACCACGGGCCCGAACCGTCCCTACACCGTCTACGACTTCTCACACG
 38 L H A V V P G P W Q E D V A D A E E C A 57
 181 TGGTCGCTGTGGGCCCTTAATGGACTGCCGGCCCTTCCACTACAACGTGAGCAGCCATGG 240
 ACCAGCGACACCCGGGAATTACCTGACGGCCCGGAAGGTGATGTTGCACTCGTCGGTACC
 58 G R C G P L M D C R A F H Y N V S S H G 77
 241 TTGCCAACTGCTGCCATGGACTCAAACACTCGCCCCACACGAGGCTGCCGGCTTCTGGCG 300
 AACGGTTGACGACGGTACCTGAGTTGAGCAGGGGTGTGCTCCGACGCCGAAGACCCGC
 78 C Q L L P W T Q H S P H T R L R R S G R 97
 301 CTGTGACCTCTTCCAGAAGAAAAGACTACGTACGGACCTGCATCATGAACAAATGGGTTGG 360
 GACACTGGAGAAGGTCTCTTCTGATGCATGCCCTGGACGTAGTACTTGTACCCCAACC
 98 C D L F Q K K D Y V R T C I M N N G V G 117
 361 GTACCGGGGCACCATGGCCACGACCCTGGCTGCCCTGCCAGGCTGGAGGCCACAA 420
 CATGGCCCCGTGGTACCGGTGCTGGCACCCACCGGACGGACGGTCCGAACCTCGGTGTT
 118 Y R G T M A T T V G G L P C Q A W S H K 137
 421 GTTCCCGAATGATCACAAAGTACACGCCACTCTCCGGAAATGGCCTGGAAGAGAACTTCTG 480
 CAAGGGCTTACTAGTGTTCATGTGCGGGTGAGAGGCCCTACCGGACCTTCTCTGAAAGAC
 138 F P N D H K Y T P T L R N G L E E N F C 157
 481 CCGTAACCCCTGATGGCGACCCCGGAGGTCTTGGTCCTACACAAACAGACCCCTGCTGTGCG 540
 GGCATGGGACTACCGCTGGGCCCTCCAGGAACCACGATGTGTTGTCGGGACGACACGC
 158 R N P D G D P G G P W C Y T T D P A V R 177

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WO 99/38967

PCT/EP99/00478

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11/19

541	CTTCCAGAGCTGCGGCATCAAATCCTGCCGGGAGGCCGCGTGTGTCTGGTGCATGGCGA GAAGGTCTGACGCCGTAGTTAGGACGGCCCTCCGGCGCACACAGACCACGTTACCGCT	600
178	F Q S C G I K S C R E A A C V W C N G E	197
601	GGAATACCGCGGCGCGGTAGACCGCACGGAGTCAGGGCGCGAGTGCCAGCGCTGGGATCT CCTTATGGCGCCCGCCATCTGGCGTGCCTCAGTCCCAGCTCACGGTCGCGACCCCTAGA	660
198	E Y R G A V D R T E S G R E C Q R W D L	217
661	TCAGCACCCGACCAGCACCCCTTCGAGCCGGCAAGTTCTCGACCAAGGTCTGGACGA AGTCGTGGCGTGGTCGTGGGAAGCTCGGCCCGTTCAAGGAGCTGGTCCAGACCTGCT	720
218	Q H P H Q H P F E P G K F L D Q G L D D	237
721	CAACTATTGCCGGAACCTGACGGCTCCGAGCGGCCATGGTGTACACTACGGATCCGCA GTTGATAACGGCCTTAGGACTGCCAGGCTCGCCGGTACACGATGTGATGCCTAGGCCT	780
238	N Y C R N P D G S E R P W C Y T T D P Q	257
781	GATCGAGCGAGAGTTCTGTGACCTCCCCCGCTGCCGGTCCGAGGCACAGCCCCGCCTCGA CTAGCTCGCTCTCAAGACACTGGAGGGGGCGACGCCAGGCTCCGTGTCGGGGCGGAGCT	840
258	I E R E F C D L P R C G S E A Q P R L E	277
841	GGGCGGTGGCGGTTCTGGTGGCGGTGGCTCCGGCGGTGGCGGTTCTCTAGAGGGACAAAG CCCGCCACCGCCAAAGACCAACCGGCCACCGAGGCCACCGCCAAGAGATCTCCCTGTTTC	900
278	G G G G S G G G S G G G G S L E G Q R	297
901	GAAAAGAAGAAATAATTCAATTGAAATTCAAAAAATCAGCAAAGACTACCCATAATCAAAAT CTTTCTTCTTATGTTAAGTACTTAAGTTTTAGTCGTTCTGATGGGATTAGTTTA	960
298	K R R N T I H E F K K S A K T T L I K I	317
961	AGATCCAGCACTGAAGATAAAAACCAAAAGTGAATACTGCAGACCAATGTGCTAATAG TCTAGGTCGTGACTTCTATTGTTGTTTCACTTATGACGTCTGGTTACACGATTATC	1020
318	D P A L K I K T K K V N T A D Q C A N R	337
1021	ATGTACTAGGAATAAGGACTTCCATTCACTTGCAAGGCTTTGTTTGATAAAGCAAG TACATGATCCTTATTCTGAAAGTAAGTGAACGTTCCGAAACAAACTATTCGTTTC	1080
338	C T R N K G L P F T C K A F V F D K A R	357
1081	AAAACAATGCCTCTGGTCCCTCAATAGCATGTCAAGTGGAGTGAAAGAATTGG TTTGTTACGGAGACCAAGGGAAAGTTATCGTACAGTTCACTTTTCTTAAACC	1140
358	K Q C L W F P F N S M S S G V K K E F G	377
1141	CCATGAATTGACCTCTATGAAAACAAAGACTACATTAGAAACTGCATCATTGGTAAAGG GGTACTTAAACTGGAGATACTTTGTTCTGATGTAATCTTGACGTAGTAACCATTCC	1200
378	H E F D L Y E N K D Y I R N C I I G K G	397

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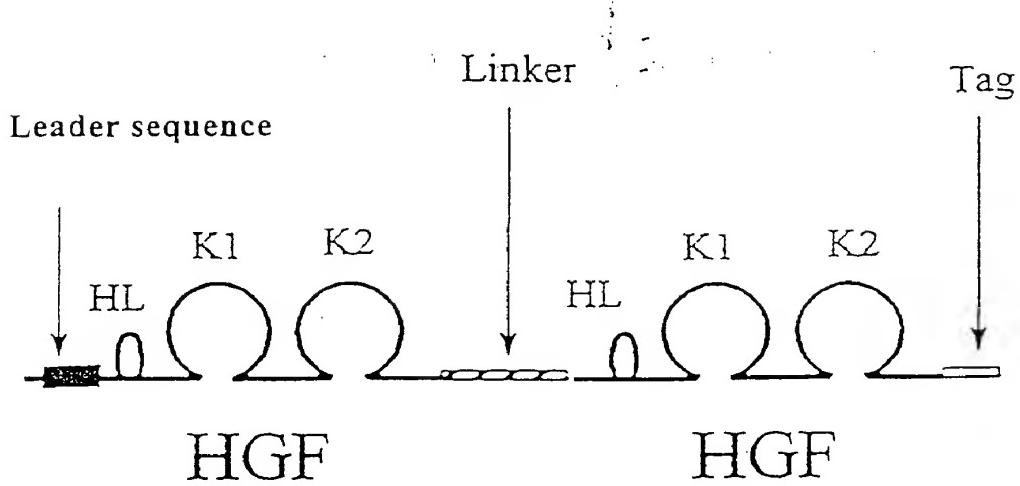
12/19

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WO 99/38967

PCT/EP99/00478

13/19

FIG 3a

14/19

FIG 3b

1 GGATCCGCCAGCCCGTCCAGCAGCACCATGTGGGTGACCAAACCTCCTGCAGCCCTGCTG 60
 1 CCTAGGCAGTCGGGCAAGGTCGTGTTACACCCACTGGTTGAGGACGGTCGGGACGAC
 1 M W V T K L L P A L L 11
 61 CTGCAGCATGTCCCTGCATCTCCTCCTGCTCCCCATGCCATCCCTATGCAGAGGGA 120
 GACGTCGTACAGGAGGACGTAGAGGAGGACGGAGGGTAGCGGTAGGGATACGTCTCCCT
 12 L Q H V L L H L L L P I A I P Y A E E G 31
 121 CAAAGGAAAAGAAGAAATACAATTCAATTGAATTCAAAAAATCAGCAAAGACTACCCTAAC 180
 GTTCCCTTTCTTCTTATGTTAAGTACTTAAGTTTTAGTCGTTCTGATGGGATTAG
 32 Q R K R R N T I H E F K K S A K T T L I 51
 181 AAAATAGATCCAGCACTGAAGATAAAACCAAAAAAGTGAATPACTGCAGACCAATGTGCT 240
 TTTTATCTAGGTGACTTCTATTGGTTTTCACTTATGACGTCTGGTACACGA
 52 K I D P A L K I K T K K V N T A D Q C A 71
 241 AATAGATGTACTAGGAATAAGGACTTCCATTCACTTGCAAGGCTTTGATAAA 300
 TTATCTACATGATCCTTATTCCTGAAGGTAAGTGAACGTTCCGAAAACAAAATATT
 72 N R C T R N K G L P F T C K A F V F D K 91
 301 GCAAGAAAACAATGCCTCTGGTCCCCTCAATAGCATGTCAAGTGGAGTGAAPAAAGAA 360
 CGTTCTTGTACGGAGACCAAGGGGAAGTTATCGTACAGTTCACCTCACTTTCTT
 92 A R K Q C L W F P F N S M S S G V K K E 111
 361 TTTGCCATGAATTGACCTCTATGAAAACAAAGACTACATTAGAAACTGCATCATTGGT 420
 AAACCGGTACTAAACTGGAGATACTTTGTTCTGATGTAATCTTGACGTAGTAACCA
 112 F G H E F D L Y E N K D Y I R N C I I G 131
 421 AAAGGACGCAGCTACAAGGGAACAGTATCTACTAAGAGTGGCATCAATGTCAAGCCC 480
 TTTCCTGCGTCGATGTTCCCTTGTCAAGATAGTGAATTCTCACCGTAGTTACAGTCGGG
 132 K G R S Y K G T V S I T K S G I K C Q P 151
 481 TGGAGTTCCATGATACCACACGAACACAGCTATCGGGTAAAGACCTACAGGAAAAC 540
 ACCTCAAGGTACTATGGTGTGCTTGTGATAGCCCCATTCTGGATGTCCTTTGATG
 152 W S S M I P H E H S Y R G K D L Q E N Y 171

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09/600991

WO 99/38967

PCT/EP99/00478

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15/19

541 TGTCGAAATCCTCGAGGGGAAGAAGGGGGACCCCTGGTGTTCACAAGCAATCCAGAGGTA
-----+-----+-----+-----+-----+-----+-----+-----+-----+
ACAGCTTTAGGAGCTCCCTCTCCCCCTGGGACCACAAAGTGTCTCGTTAGGTCTCCAT 600

172 C R N P R G E E G G P W C F T S N P E V 191

601 CGCTACGAAGTCTGTGACATTCTCAGTGTTCAGAAGTTGAATGCATGACCTGCAATGGG
-----+-----+-----+-----+-----+-----+-----+-----+-----+
GCGATGCTTCAGACACTGTAAGGAGTCACAAGTCTTCAACTTACGTACTGGACGTTACCC 660

192 R Y E V C D I P Q C S E V E C M T C N G 211

661 GAGAGTTATCGAGGTCTCATGGATCATACAGAACATCAGGGAAAGATTGTCAGCGCTGGGAT
-----+-----+-----+-----+-----+-----+-----+-----+-----+
CTCTCAATAGCTCCAGAGTACCTAGTATGTCTTAGTCCGTTCTAAACAGTCGCGACCCCTA 720

212 E S Y R G L M D H T E S G K I C Q R W D 231

721 CATCAGACACCAACACCGGCACAAATTCTTGCCCTGAAAGATATCCGACAAGGGCTTGAT
-----+-----+-----+-----+-----+-----+-----+-----+-----+
GTAGTCTGTGGTGTGCCGTGTTAAGAACGGACTTTCTATAGGGCTGTTCCGAAACTA 780

232 H Q T P H R H K F L P E R Y P D K G F D 251

781 GATAATTATTGCCGCAATCCCGATGCCAGGCCATGGTGTCTAGGGCTGACACGGAAACTGGGA
-----+-----+-----+-----+-----+-----+-----+-----+-----+
CTATTAATAACGGCGTTAGGGCTACCGGTGGCTCCGGTACCAACGATATGAGAACTGGGA 840

252 D N Y C R N P D G Q P R P W C Y T L D P 271

841 CACACCCGCTGGGAGTACTGTGCAATTAAAACATGCGCTGACAAAGCTTCGGCGGTGGC
-----+-----+-----+-----+-----+-----+-----+-----+-----+
GTGTGGCGACCCCTCATGACACGTTAATTGTACCGACTGTTGAAAGCCGCCACCG 900

272 H T R W E Y C A I K T C A D K A S G G G 291

901 GGTTCTGGTGGCGGTGGCTCCGGCGGTGGCGTTCTCTAGAGGGACAAAGGAAAAGAAGA
-----+-----+-----+-----+-----+-----+-----+-----+-----+
CCAAGACCACCGCCACCGAGGCCACCGCCAAGAGATCTCCCTGTTCTTTCTCT 960

292 G S G G G S G G G G S L E G Q R K R R 311

961 AATACAATTGAAATTCAAAAAATCAGCAAAGACTACCCCTAACATCAAAATAGATCCAGCA
-----+-----+-----+-----+-----+-----+-----+-----+-----+
TTATGTTAAGTACTTAAGTTTTAGTCGTTCTGATGGATTAGTTATCTAGGTCTG 1020

312 N T I H E F K K S A K T T L I K I D P A 331

1021 CTGAAGATAAAAACCAAAAAGTGAATACTGCAGACCAATGTGCTAACAGATGTACTAGG
-----+-----+-----+-----+-----+-----+-----+-----+-----+
GACTTCTATTTGGTTTTCACTTATGACGTCTGGTTACACGATTATCTACATGATCC 1080

332 L K I K T K K V N T A D Q C A N R C T R 351

1081 AATAPGGACTTCATTCACTTGCAAGGCTTTGTTTGATAAAGCAAGAAGAACARTGC
-----+-----+-----+-----+-----+-----+-----+-----+-----+
TTATTCCTGAAGGTAAGTGAACGTTCCGAAAACAAAACGATTATTCGTTCTTTGTTACG 1140

352 N K G L P F T C K A F V F D K A R K Q C 371

1141 CTCTGGTCCCCTCAATAGCATGTCAAGTGGAGTGAAAAAGAATTGGCCATGAATT
-----+-----+-----+-----+-----+-----+-----+-----+-----+
GAGACCAAGGGAAAGTTATCGTACAGTTCACCTCACTTTCTAAACCGGTACTTAAA 1200

372 L W F P F N S M S S G V K K E F G H E F 391

09/600991

WO 99/38967

PCT/EP99/00478

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16/19

1201 GACCTCTATGAAAACAAGACTACATTAGAACTGCATCATTGGTAAAGGACGCAGCTAC
1260 CTGGAGATACTTTGTTCTGATGTAATCTTGACGTAGTAACCATTCCCTGCGTCGATG
392 D L Y E N K D Y I R N C I I G K G R S Y 411

1261 AAGGGAACAGTATCTATCACTAAGAGTGGCATCAAATGTCAGCCCTGGAGTTCCATGATA
1320 TTCCCTTGTCTAGATAGTAGTGATTCTCACCGTAGTTACAGTCGGGACCTCAAGGTACTAT
412 K G T V S I T K S G I K C Q P W S S M I 431

1321 CCACACGAACACAGCTATCGGGTAAAGACCTACAGGAAACTACTGTCGAAATCCCTCGA
1380 GGTGTGCTTGTGTCGATAGCCCCATTCTGGATGTCCTTTGATGACAGCTTAGGAGCT
432 P H E H S Y R G K D L Q E N Y C R N P R 451

1381 GGGGAAGAAGGGGGACCCCTGGTGTTCACAAGCAATCCAGAGGTACGCTACGAAGTCTGT
1440 CCCCTTCTTCCCCCTGGGACCACAAAGTGTTCGTTAGGTCTCCATGCGATGCTTCAGACA
452 G E E G G P W C F T S N P E V R Y E V C 471

1441 GACATTCTCAGTGTTCAGAAGTTGAATGCATGACCTGCAATGGGAGAGTTATCGAGGT
1500 CTGTAAGGAGTCACAAGTCTCAACTTACGTACTGGACGTTACCCCTCTCAATAGCTCCA
472 D I P Q C S E V E C M T C N G E S Y R G - 491

1501 CTCATGGATCATACAGAACATCAGGCAAGATTGTCAGCGCTGGGATCATCAGACACACAC
1560 GAGTACCTAGTATGTCTTAGTCCGTTCTAAACAGTCGGACCCCTAGTAGTCTGTGGTGTG
492 L M D H T E S G K I C Q R W D H Q T P H 511

1561 CGGCACAAATTCTTGCCTGAAAGATATCCCACAGGGCTTGATGATAATTATTGCCGC
1620 GCCGTGTTAACGAAACGGACTTCTATAGGGCTGTTCCCGAAACTACTATTAAATAACGGCG
512 R H K F L P E R Y P D K G F D D N Y C R 531

1621 AATCCCGATGGCCAGCCGAGGCCATGGTCTATACTCTTGACCCCTCACACCCGCTGGGAG
1680 TTAGGGCTACCGGTCGGCTCCGGTACACGATATGAGAACTGGGAGTGTGGCGACCCCTC
532 N P D G Q P R P W C Y T L D P H T R W E 551

1681 TACTGTGCAATTAAACATGCGCTGACAAAGCTGACGACGACGACAAACACCCACAC
1740 ATGACACGTTAATTGTACGCGACTGTTGACTGCTGCTGCTGTTGTGGTGGTGGT
552 Y C A I K T C A D K A D D D D K H H H H 571

1741 CACCAACACTAGGGTCGAC 1759
GTGGTGGTGTACCCAGCTG

572 H H H * 574

09/600991

WO 99/38967

PCT/EP99/00478

17/19

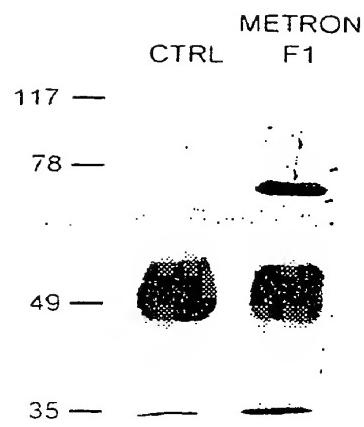


Fig 4

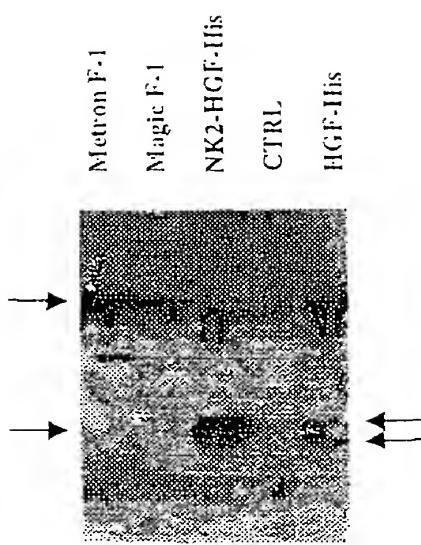


Fig 5A

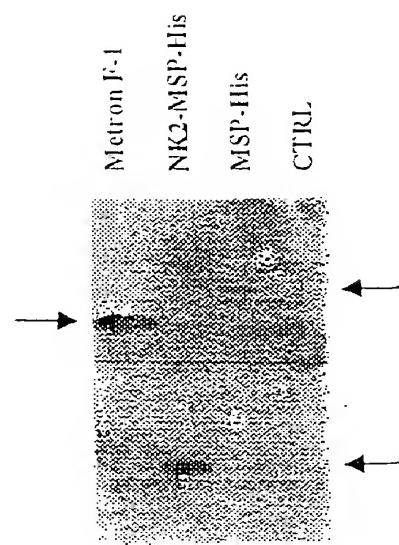


Fig 5B

09/600991

WO 99/38967

PCT/EP99/00478

18/19

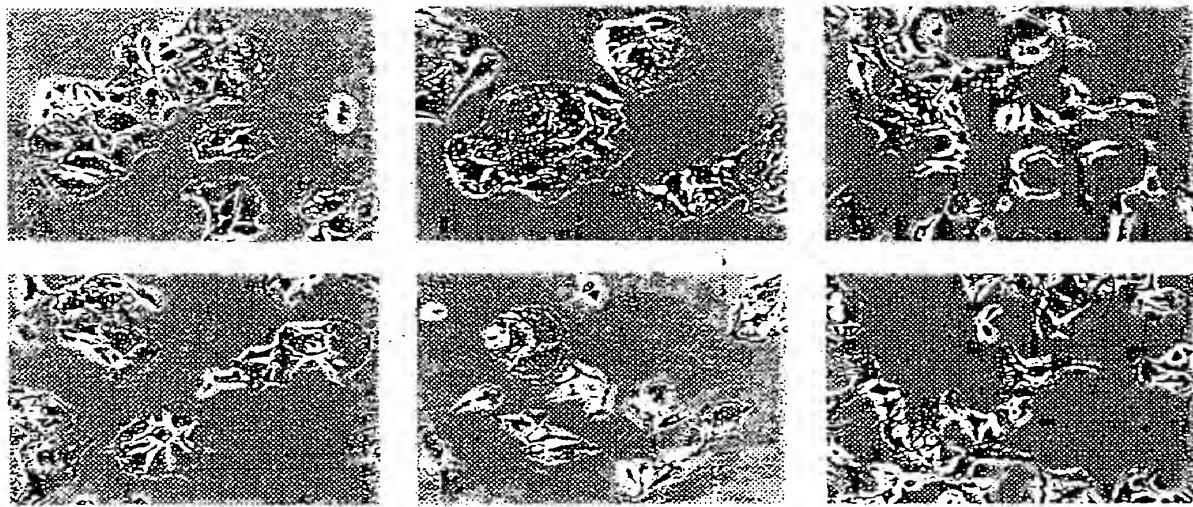


Fig 6

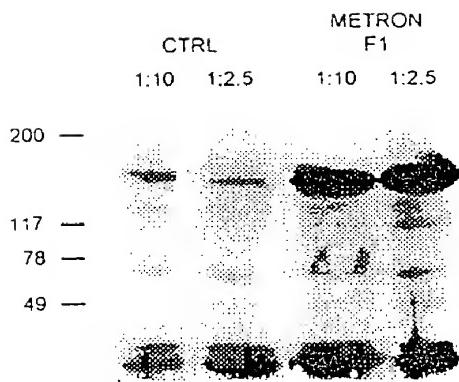


Fig 7

09/600991

WO 99/38967

PCT/EP99/00478

19/19

FIG 8

